

**Summer '08 - Vegetation protocol**  
**Collect a minimum set of relevant variables that**  
**Characterize the conditions where gwwa nest,**  
**Applied across the gwwa range.**

**October 1, 2007- August 30, 2008 Scope of Work**  
**Proper management of early successional habitats**  
**within the golden-winged breeding range may be**  
**key to conserving this species.**  
**Management prescriptions for this species that mitigate**  
**against hybridization with Blue-winged Warblers.**

**Golden-winged Warbler Conservation Initiative:**  
**Preproposal Year 3**

**•GOAL:**

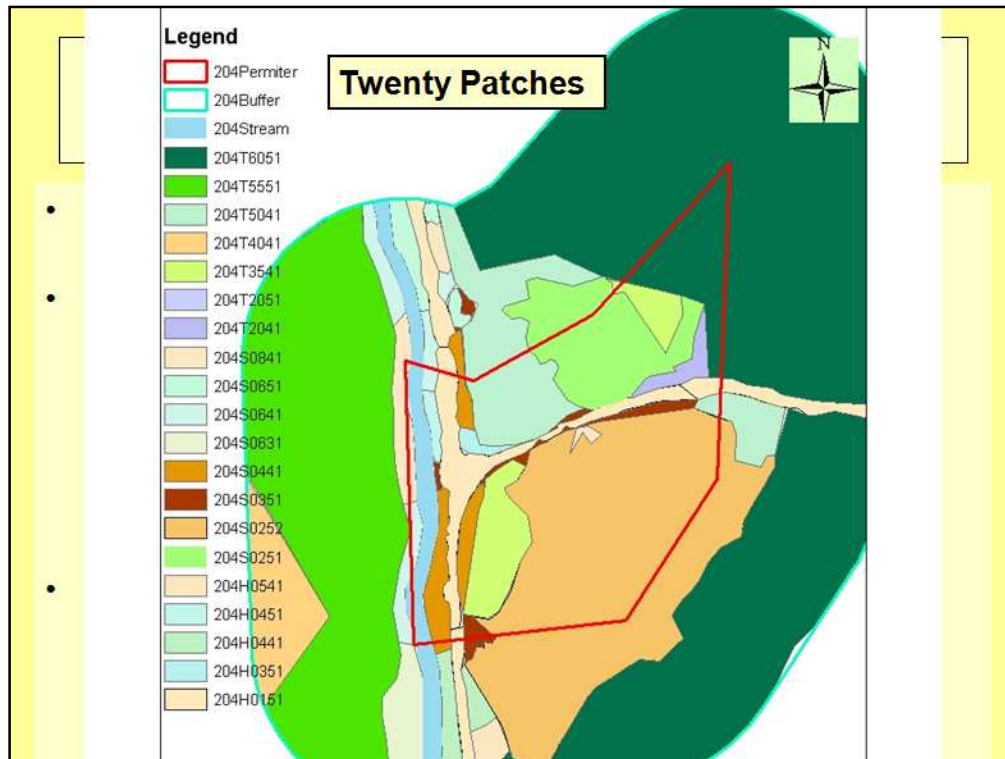
- enable state, federal, and private land managers to**  
**target habitat prescriptions at specific sites**
- to maximally benefit GWWA and associated species.**

## GWWA Territory at Dike Swamp

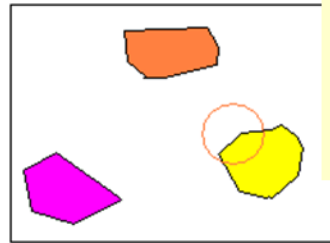


## GWWA Territory at Dike Swamp





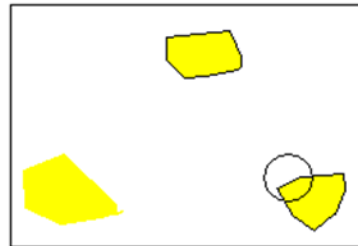
**Computer Generated Sampling,  
using GPS-mapped territories, and ArcView**



Pseudo-realistic variation in patchiness

Greater variance in patch attributes, ~ greater sampling difficulty

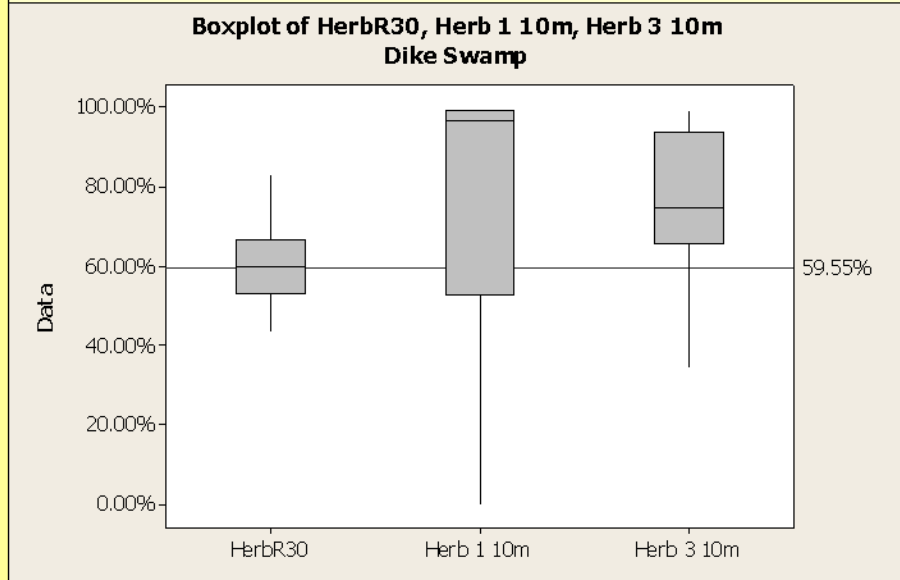
Simplified for clarification  
Reduced variance in patch attributes  
Pseudo-improvement in sampling reliability



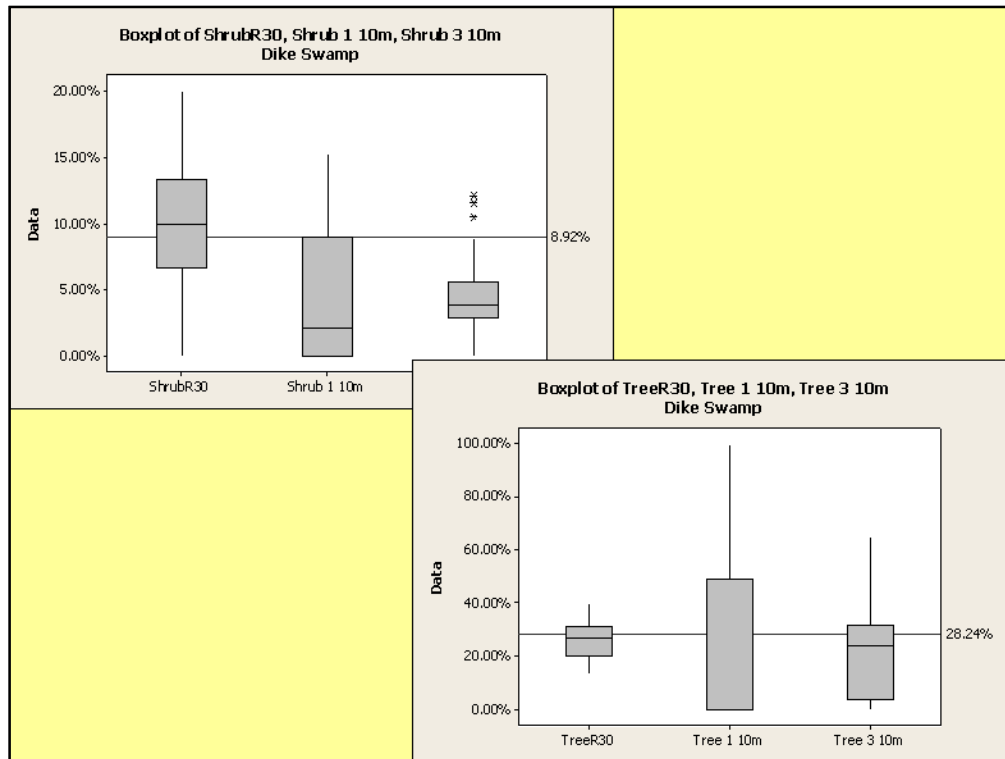




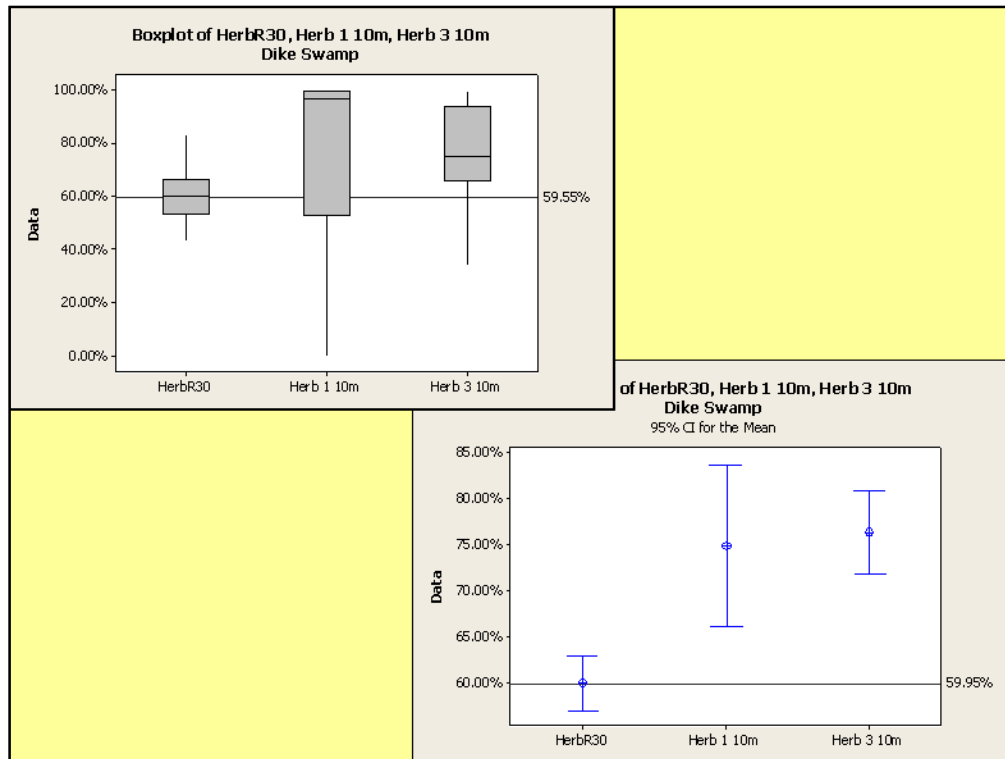
**Computer-generated samples from Dike Swamp**  
**Comparing 30 replicates of:**  
**30 points and one circle and 3 circles.**

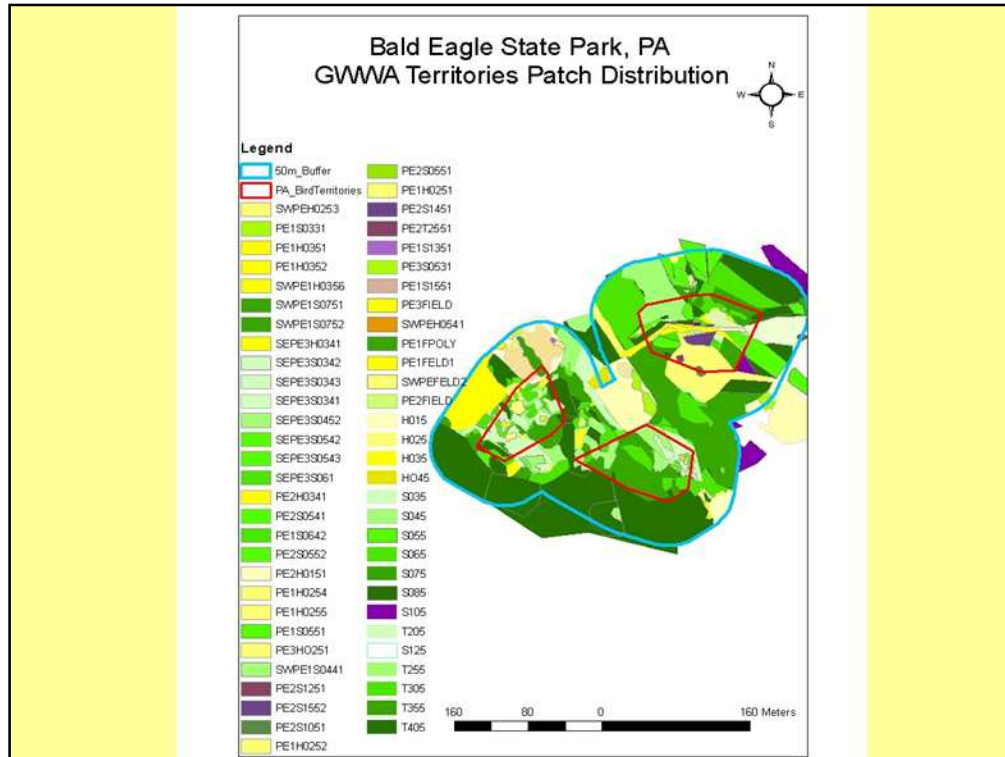




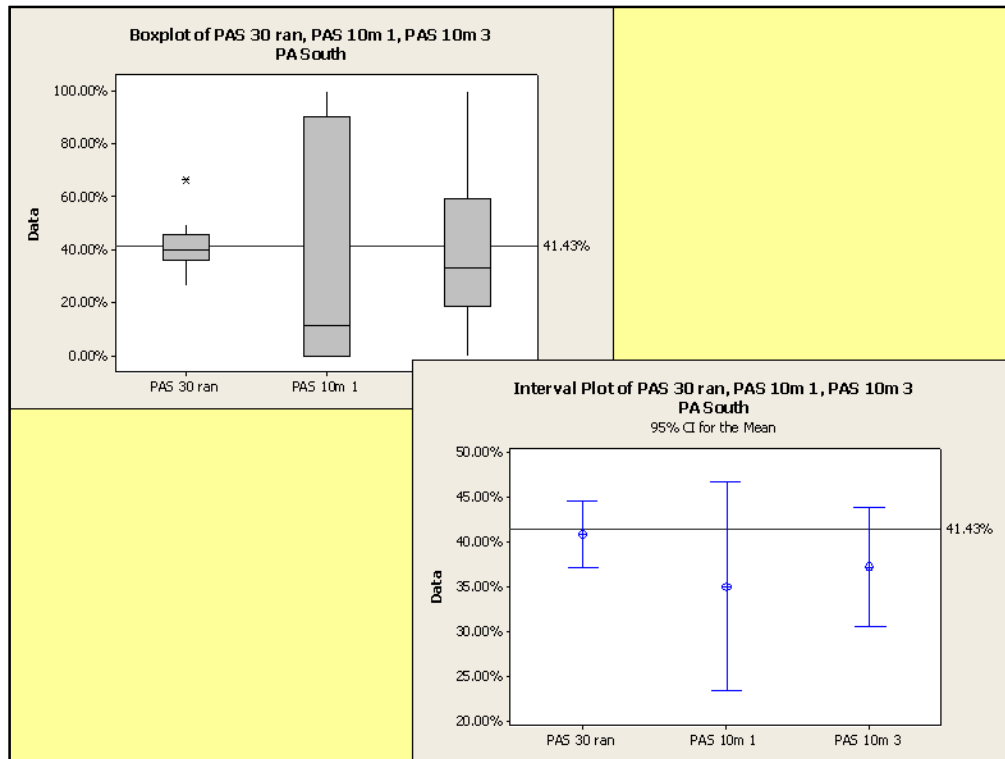












	Recommendations	
<ul style="list-style-type: none"> <li>• <b>Protocol of Confer, Larkin and Allen 2003</b></li> <li>• <b>Transect lines, record values for herbs, shrubs, trees at 30 points</b> <ul style="list-style-type: none"> <li>– <b>Perpendicular to long axis of territory</b></li> <li>– <b>Constant distance between transect lines</b></li> <li>– <b>Constant distance between points</b></li> <li>– <b>Distance between points wraps around at territorial border (avoids bias against forest edge)</b></li> </ul> </li> <li>• <b>Five categorical values for cover by herbs, shrubs, trees</b> <ul style="list-style-type: none"> <li>– <b>1 (0-3%), 2 (4-15%), 3 (16-33%), 4 (34-66%), 5 (67-100%)</b> <ul style="list-style-type: none"> <li>• <b>Criteria: 100% = as dense as it ever gets</b></li> </ul> </li> </ul> </li> <li>• <b>Record ecotones along transect lines.</b></li> </ul>		

### **Advantages of 30-point protocol**

- *Sampling correctly measures mean attribute despite gradients and patchiness in territory*
- *Large sample size reduces standard deviation and increases statistical power*
- *Proven success in relating vegetation to bird species*
  - *BWWA vs GWWA; stage of succession (twice)*
  - *Neotropical migrant habitat selection in Jamaica*
  - *Nesting success of GWWA*
- *Applicable to wet and dry habitats*
- *Patchiness readily measured along transects*
- **Requires about 1.5 hours per territory.**